UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/787,357	05/16/2001	Hidetoshi Yano	04476.00003	8163

22907 7590 05/28/2003

BANNER & WITCOFF
1001 G STREET N W
SUITE 1100
WASHINGTON, DC 20001

EXAMINER
LEURIG, SHARLENE L

ART UNIT	PAPER NUMBER
2879	

DATE MAILED: 05/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/787,357	YANO, HIDETOSHI	
	Examiner	Art Unit	
	Sharlene Leurig	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 April 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 11-13* is/are rejected.

7)☒ Claim(s) *5-10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

The Amendment filed on April 7, 2003 has been entered and acknowledged by the Examiner. Claims 1, 4 and 10 have been amended.

Claim Objections

1. Claim 1 is objected to because of the following informalities:

Claim 1, line 7 should read "given a different potential than is given said inner electrode."

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 and 2 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Hiromitsu (JP 07-272694 A) in view of Nakaya et al. (5,929,564).

Hiromitsu discloses a fluorescent lamp comprising a glass tube (Figure 1, element 1), both ends of which are sealed airtightly (Abstract Constitution lines 3- 4).

There is a fluorescent layer on the inner wall of the tube (Figure 1, element 100), an inner electrode arranged in the tube at one end, where it is connected to the tube, (Figure 1, element 5), and an outer electrode (Figure 1, element 4) encloses the glass tube between both ends along the tube's axis as a "wire netting" (Abstract Constitution line 5). The two electrodes are supplied with potential by an alternating power source (Figure 1, element 21), resulting in the outer electrode and the inner electrode being supplied with different potentials and thereby producing discharge within the tube.

Regarding claim 2, the tube is filled with xenon (Abstract Constitution line 13).

While Hiromitsu discloses all the limitations discussed above, he lacks an outer electrode spirally wound along the tube. However, Nakaya interprets the Hiromitsu reference as having "an external electrode . . . formed by winding a metal wire . . . around the tubular glass bulb" (column 1, line 22) and teaches that the external electrode of his invention "may be formed by winding a metal wire spirally around the tubular glass bulb as in the prior art described above [Hiromitsu]" (column 2, line 58). Therefore Nakaya shows that spiral winding is an equivalent structure known in the art.

Therefore, because these two external electrode configurations were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute spirally wound external electrode for a metal mesh external electrode.

4. Claim 3 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Hiromitsu (JP 07-272694 A) in view of Nakaya et al. (5,929,564) as applied to claims 1 and 2 above, and further in view of Roche (3,753,036). Hiromitsu and Nakaya disclose

all the limitations discussed above, but lack a means of securing the external electrode to the discharge tube. However, Nakaya recognizes the need for efficiency in a fluorescent lamp with a stationary external electrode (paragraph 0034 line 9). The more secure the external electrode, the more efficient the lamp. Roche teaches the use of a "clear plastic insulating material" (column 3, line 16) wrapped around an external electrode wrapped around the glass tube of a fluorescent lamp to secure the wire to the tube. It would have been obvious to one having ordinary skill in the art at the time of the invention to substitute a clear resin for the clear plastic wrap since the examiner takes Official Notice of the equivalence of resin and clear plastic wrap for their use in the coating art and the selection of any of these known equivalents to secure the external electrode would be within the level of ordinary skill in the art.

5. Claims 4 and 11-13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Larson et al. (4,179,640) in view of Roche (3,753,036).

Regarding claims 4, 11 and 13, Larson discloses a xenon-filled lamp (column 3, line 49) with sealing portions on opposing ends of a glass discharge tube (column 2, line 11). A first feeding lead wire (Figure 1, element 18) penetrates one sealing portion (21) in an airtight fashion and inner electrode (14) is connected to the end of the first feeding lead wire and extends into the glass tube. A second feeding lead wire (20) is buried in the opposing sealing portion, the other end being electrically connected to the connector (34) outside of the glass discharge tube. Outer electrode (40) is spirally wound around the outer surface of the glass tube along its axis, between its both ends, and is electrically connected to the second feeding lead wire (20) via the frame 32 to which it is

electrically and mechanically attached. Frame (32) is simply an extension of second feeding lead wire (20), and therefore the outer electrode (40) is both mechanically and electrically attached to the second feeding lead wire.

Regarding claim 11, Larson discloses a locating portion formed on the outer surface of the glass tube (Figure 8, element 56). The conductive outer electrode is guided by the locating portion, located at either end of the glass tube, and is spirally wound in the overall length of the tube.

While Larson discloses all the limitations discussed above, he lacks a fluorescent substance formed on the inner surface of the glass tube. However, it is well known in the art to modify a fluorescent lamp with an external electrode, as taught by Roche, who forms a fluorescent layer on the inner wall of the discharge tube (column 2, line 10). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Larson's external electrode lamp with a fluorescent film on the inner wall of the discharge tube, as taught by Roche.

Regarding claim 12, while Larson recognizes the need for securing the outer electrode to the discharge tube (column 6, line 47), he lacks a clear resin film uniting the outer electrode and the discharge tube. Roche teaches the use of a "clear plastic insulating material" (column 3, line 16) wrapped around an external electrode wrapped around the glass tube of a fluorescent lamp to secure the wire to the tube. It would have been obvious to one having ordinary skill in the art at the time of the invention to substitute a clear resin for the clear plastic wrap since the examiner takes Official Notice of the equivalence of resin and clear plastic wrap for their use in the coating art and the

selection of any of these known equivalents to secure the external electrode would be within the level of ordinary skill in the art.

Allowable Subject Matter

6. Claims 5-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 5-7 are found to be allowable because no prior art suggests or shows a fluorescent lamp with a second feeding lead wire being buried in the sealing portion but not exposed to the inside of the glass tube, or with an outer electrode wound around the second feeding lead wire, or with the outer electrode wound around the second feeding lead wire in the same direction as the winding direction as it is wound around the outer surface of the glass tube.

Response to Arguments

7. Applicant's arguments filed on April 7, 2003 have been fully considered but they are not persuasive. The applicant has argued that the claimed invention is allowable over the prior art of record, namely Hiromitsu in view of Nakaya, because while claim 1 includes the limitation of "an inner electrode arranged at one end in this glass tube," neither Hiromitsu nor Nakaya teach or suggest an inner electrode only at one end portion of the tube. However, claim 1 does not explicitly recite an inner electrode that does not extend past a certain point in the tube, but rather recites an inner electrode "arranged at one end" of the tube. The inner electrode disclosed by Hiromitsu is sealed in the tube at one end of the tube and is therefore interpreted as being "arranged at one end" of the glass tube.

The discharge pattern formed by the arrangement of the inner electrode of the claimed invention is not recited in the claim. The resistance to mechanical shock of the lamp of the claimed invention is not recited in the claim. Therefore the combination of Hiromitsu and Nakaya includes each and every limitation of claim 1 and the rejection is maintained. Therefore claims 1-3 stand rejected.

The applicant has argued that the claimed invention is allowable over the prior art of record, namely Larson in view of Roche, because the fluorescent lamp according to claim 4 produces a discharge arc that is different from the discharge arc formed by the lamp disclosed by Larson. However, the discharge pattern formed by the arrangement of the inner electrode of the claimed invention is not recited in the claim.

The applicant has also traversed the rejection because claim 4 does not recite a second feeding lead wire electrically connected to the inner electrode. The claim does not include the limitation of the second feeding lead wire not being connected to the inner electrode. Therefore the combination of Larson and Roche includes each and every limitation of claim 4 and the rejection is maintained. Therefore claims 4-13 stand rejected.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date t he advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date o f this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharlene Leurig whose telephone number is (703)305-4745. The examiner can normally be reached on Monday through Friday, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703)305-4794. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7382 for regular communications and (703)308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

VIP PATEL
PRIMARY EXAMINER

Sharlene Leurig
May 20, 2003
SL